SEQUENCE LISTING

<110>	Wyeth					
<120>	METHODS AND CO	MPOSITIONS	FOR TREATING	G NEUROLOGIO	CAL DISORDER	S
<130>	AM101119	•				
<160>	21					
<170>	PatentIn versi	on 3.2				
<210><211><211><212><213>	1 7260 DNA Homo sapiė̇̀ns					•
<400> tcactg	1 tcac tgctäaatto	: agagcagatt	agagcctgcg	caatggaata	aagtcctcaa	60
aattgaa	aatg tgacattgct	ctcaacatct	cccatctctc	tggatttcct	tttgcttcat	120
tattcc	tgct aaccaattca	ttttcagact	ttgtacttca	gaagcaatgg	gaaaaatcag	180
cagtct	cca acccaattat	ttaagtgctg	cttttgtgat	ttcttgaagg	tgaagatgca	240
caccat	gtcc tcctcgcato	tcttctacct	ggcgctgtgc	ctgctcacct	tcaccagctc	300
tgccac	ggct ggaccggaga	cgctctgcgg	ggctgagctg	gtggatgctc	ttcagttcgt	360
gtgtgg	agac aggggctttt	atttcaacaa	gcccacaggg	tatggctcca	gcagtcggag	420
ggcgcct	cag acaggcatco	tggatgagtg	ctgcttccgg	agctgtgatc	taaggaggct	480
ggagat	gtat tgcgcaccco	: tcaagcctgc	caagtcagct	cgctctgtcc	gtgcccagcg	540
ccacac	cgac atgcccaaga	cccagaagga	agtacatttg	aagaacgcaa	gtagagggag	600
tgcagga	aaac aagaactaca	ggatgtagga	agaccctcct	gaggagtgaa	gagtgacatg	660
ccaccgo	cagg atcctttgct	ctgcacgagt	tacctgttaa	actttggaac	acctaccaaa	720
aaataaq	gttt gataacattt	aaaagatggg	cgtttccccc	aatgaaatac	acaagtaaac	780
attccaa	acat tgtctttagg	agtgatttgc	accttgcaaa	aatggtcctg	gagttggtag	840
attgct	gttg atcttttato	aataatgttc	tatagaaaag	aaaaaaaaat	atatatatat	900
atatato	ctta gtccctgcct	ctcaagagcc	acaaatgcat	gggtgttgta	tagatccagt	960
tgcacta	aaat teetetetga	atcttggctg	ctggagccat	tcattcagca	accttgtcta	1020
agtggtt	tat gaattgttto	cttatttgca	cttctttcta	cacaactcgg	gctgtttgtt	1080
ttacagt	gtc tgataatctt	gttagtctat	acccaccacc	tcccttcata	acctttatat	1140

ttgccgaatt tggcctcctc aaaagcagca gcaagtcgtc aagaagcaca ccaattctaa 1200 1260 cccacaagat tccatctgtg gcatttgtac caaatataag ttggatgcat tttattttag acacaaagct ttatttttcc acatcatgct tacaaaaaag aataatgcaa atagttgcaa 1320 ctttgaggcc aatcattttt aggcatatgt tttaaacata gaaagtttct tcaactcaaa 1380 agagttcctt caaatgatga gttaatgtgc aacctaatta gtaactttcc tctttttatt 1440 ttttccatat agagcactat gtaaatttag catatcaatt atacaggata tatcaaacag 1500 tatgtaaaac tctgtttttt agtataatgg tgctattttg tagtttgtta tatgaaagag 1560 1620 tctggccaaa acggtaatac gtgaaagcaa aacaataggg gaagcctgga gccaaagatg 1680 acacaagggg aagggtactg aaaacaccat ccatttggga aagaaggcaa agtcccccca gttatgcctt ccaagaggaa cttcagacac aaaagtccac tgatgcaaat tggactggcg 1740 agtccagaga ggaaactgtg gaatggaaaa agcagaaggc taggaatttt agcagtcctg 1800 gtttcttttt ctcatggaag aaatgaacat ctgccagctg tgtcatggac tcaccactgt 1860 gtgaccttgg gcaagtcact tcacctctct gtgcctcagt ttcctcatct gcaaaatggg 1920 1980 ggcaatatgt catctaccta cctcaaaggg gtggtataag gtttaaaaag ataaagattc agattttttt accetgggtt getgtaaggg tgeaacatea gggegettga gttgetgaga 2040 tgcaaggaat tctataaata acccattcat agcatagcta gagattggtg aattgaatgc 2100 tectgaeate teagttettg teagtgaage tatecaaata aetggeeaae tagttgttaa 2160 2220 aagctaacag ctcaatctct taaaacactt ttcaaaatat gtgggaagca tttgattttc aatttgattt tgaattetge atttggtttt atgaatacaa agataagtga aaagagagaa 2280 aggaaaagaa aaaggagaaa aacaaagaga tttctaccag tgaaagggga attaattact 2340 ctttgttagc actcactgac tcttctatgc agttactaca tatctagtaa aaccttgttt 2400 2460 aatactataa ataatattct attcattttg aaaaacacaa tgattccttc ttttctaggc aatataagga aagtgatcca aaatttgaaa tattaaaata atatctaata aaaagtcaca 2520 aagttatett etttaacaaa etttaetett attettaget gtatataeat ttttttaaaa 2580 agtttgttaa aatatgcttg actagagttt cagttgaaag gcaaaaactt ccatcacaac 2640 aagaaatttc ccatgcctgc tcagaagggt agcccctagc tctctgtgaa tgtgttttat 2700 ccattcaact gaaaattggt atcaagaaag tccactggtt agtgtactag tccatcatag 2760

cctagaaaat gatccctatc tgcagatcaa gattttctca ttagaacaat gaattatcca 2820 gcattcagat ctttctagtc accttagaac tttttggtta aaagtaccca ggcttgatta 2880 tttcatgcaa attctatatt ttacattctt ggaaagtcta tatgaaaaac aaaaataaca 2940 tcttcagttt ttctcccact gggtcacctc aaggatcaga ggccaggaaa aaaaaaaaag 3000 actccctgga tctctgaata tatgcaaaaa gaaggcccca tttagtggag ccagcaatcc 3060 tgttcagtca acaagtattt taactctcag tccaacatta tttgaattga gcacctcaag 3120 catgcttagc aatgttctaa tcactatgga cagatgtaaa agaaactata catcattttt 3180 gccctctgcc tgttttccag acatacaggt tctgtggaat aagatactgg actcctcttc 3240 ccaagatggc acttctttt atttcttgtc cccagtgtgt accttttaaa attattccct 3300 ctcaacaaaa ctttataggc agtcttctgc agacttaaca tgttttctgt catagttaga 3360 tgtgataatt ctaagagtgt ctatgactta tttccttcac ttaattctat ccacagtcaa 3420 aaatccccca aggaggaaag ctgaaagatg caactgccaa tattatcttt cttaactttt 3480 tccaacacat aatcctctcc aactggatta taaataaatt gaaaataact cattatacca 3540 attcactatt ttattttta atgaattaaa actagaaaac aaattgatgc aaaccctgga 3600 agtcagttga ttactatata ctacagcaga atgactcaga tttcatagaa aggagcaacc 3660 aaaatgtcac aaccaaaact ttacaagctt tgcttcagaa ttagattgct ttataattct 3720 tgaatgaggc aatttcaaga tatttgtaaa agaacagtaa acattggtaa gaatgagctt 3780 tcaactcata ggcttatttc caatttaatt gaccatactg gatacttagg tcaaatttct 3840 3900 gttctctctt gcccaaataa tattaaagta ttatttgaac tttttaagat gaggcagttc ccctgaaaaa gttaatgcag ctctccatca gaatccactc ttctagggat atgaaaatct 3960 4020 4080 cacacattca ccctaaggat ccaatggaat actgaaaaga aatcacttcc ttgaaaattt tattaaaaaa caaacaaaca aacaaaaagc ctgtccaccc ttgagaatcc ttcctcct 4140 tggaacgtca atgtttgtgt agatgaaacc atctcatgct ctgtggctcc agggtttctg 4200 ttactatttt atgcacttgg gagaaggctt agaataaaag atgtagcaca ttttgctttc 4260 ccatttattg tttggccagc tatgccaatg tggtgctatt gtttctttaa gaaagtactt 4320 gactaaaaaa aaaagaaaaa aagaaaaaaa agaaagcata gacatatttt tttaaagtat 4380 aaaaacaaca attctataga tagatggctt aataaaatag cattaggtct atctagccac 4440

caccaccttt caacttttta tcactcacaa gtagtgtact gttcaccaaa ttgtgaattt 4500 4560 gggggtgcag gggcaggagt tggaaatttt ttaaagttag aaggctccat tgttttgttg gctctcaaac ttagcaaaat tagcaatata ttatccaatc ttctgaactt gatcaagagc 4620 4680 atggagaata aacgcgggaa aaaagatctt ataggcaaat agaagaattt aaaagataag 4740 taagtteett attgattttt gtgeactetg etetaaaaca gatatteage aagtggagaa 4800 aataagaaca aagagaaaaa atacatagat ttacctgcaa aaaatagctt ctgccaaatc ccccttgggt attctttggc atttactggt ttatagaaga cattctccct tcacccagac 4860 4920 atctcaaaga gcagtagctc tcatgaaaag caatcactga tctcatttgg gaaatgttgg 4980 aaagtatttc cttatgagat gggggttatc tactgataaa gaaagaattt atgagaaatt gttgaaagag atggctaaca atctgtgaag attttttgtt tcttggtttt gtttttttt 5040 5100 ttttttttac tttatacagt ctttatgaat ttcttaatgt tcaaaatgac ttggttcttt tcttcttttt tttatatcag aatgaggaat aataagttaa acccacatag actctttaaa 5160 actataggct agatagaaat gtatgtttga cttgttgaag ctataatcag actatttaaa 5220 5280 atgttttgct atttttaatc ttaaaagatt gtgctaattt attagagcag aacctgtttg gctctcctca gaagaaagaa tctttccatt caaatcacat ggctttccac caatattttc 5340 aaaagataaa tctgatttat gcaatggcat catttatttt aaaacagaag aattgtgaaa 5400 5460 gtttatgccc ctcccttgca aagaccataa agtccagatc tggtaggggg gcaacaacaa 5520 aaggaaaatg ttgttgattc ttggttttgg attttgtttt gttttcaatg ctagtgttta atcctgtagt acatatttgc ttattgctat tttaatattt tataagacct tcctgttagg 5580 tattagaaag tgatacatag atatcttttt tgtgtaattt ctatttaaaa aagagagaag 5640 5700 actgtcagaa gctttaagtg catatggtac aggataaaga tatcaattta aataaccaat 5760 tectatetgg aacaatgett ttgtttttta aagaaacete teacagataa gacagaggee 5820 caggggattt ttgaagctgt ctttattctg cccccatccc aacccagccc ttattatttt agtatctgcc tcagaatttt atagagggct gaccaagctg aaactctaga attaaaggaa 5880 cctcactgaa aacatatatt tcacgtgttc cctctctttt ttttcctttt tgtgagatgg 5940 6000 ggtctcgcac tgtcccccag gctggagtgc agtggcatga tctcggctca ctgcaacctc cacctcctgg gtttaagcga ttctcctgcc tcagcctcct gagtagctgg gattacaggc 6060

6120 acccaccact atgcccggct aattttttgg atttttaata gagacggggt tttaccatgt tggccaggtt ggactcaaac tcctgacctt gtgatttgcc cgcctcagcc tcccaaattg 6180 ctgggattac aggcatgagc caccacacc tgcccatgtg ttccctctta atgtatgatt 6240 acatggatct taaacatgat ccttctccc tcattcttca actatctttg atggggtctt 6300 6360 tcaaggggaa aaaaatccaa gcttttttaa agtaaaaaaa aaaaaagaga ggacacaaaa 6420 ccaaatgtta ctgctcaact gaaatatgag ttaagatgga gacagagttt ctcctaataa ccggagctga attacctttc actttcaaaa acatgacctt ccacaatcct tagaatctgc 6480 6540 6600 cactgatgta aagtaggaaa aataaaaaca gagctctaaa atccctttca agccacccat 6660 tgaccccact caccaactca tagcaaagtc acttctgtta atcccttaat ctgattttgt 6720 ttggatattt atcttgtacc cgctgctaaa cacactgcag gagggactct gaaacctcaa gctgtctact tacatctttt atctgtgtct gtgtatcatg aaaatgtcta ttcaaaatat 6780 caaaaccttt caaatatcac gcagcttata ttcagtttac ataaaggccc caaataccat 6840 6900 gtcagatctt tttggtaaaa gagttaatga actatgagaa ttgggattac atcatgtatt ttgcctcatg tatttttatc acacttatag gccaagtgtg ataaataaac ttacagacac 6960 tgaattaatt tcccctgcta ctttgaaacc agaaaataat gactggccat tcgttacatc 7020 tgtcttagtt gaaaagcata ttttttatta aattaattct gattgtattt gaaattatta 7080 ttcaattcac ttatggcaga ggaatatcaa tcctaatgac ttctaaaaaat gtaactaatt 7140 gaatcattat cttacattta ctgtttaata agcatatttt gaaaatgtat ggctagagtg 7200 7260

```
<210> 2
<211> 153
<212> PRT
<213> Homo sapiens
```

<400> 2

Met Gly Lys Ile Ser Ser Leu Pro Thr Gln Leu Phe Lys Cys Cys Phe 1 5 10 15

Cys Asp Phe Leu Lys Val Lys Met His Thr Met Ser Ser His Leu 20 25 30

Phe Tyr Leu Ala Leu Cys Leu Leu Thr Phe Thr Ser Ser Ala Thr Ala 40 Gly Pro Glu Thr Leu Cys Gly Ala Glu Leu Val Asp Ala Leu Gln Phe Val Cys Gly Asp Arg Gly Phe Tyr Phe Asn Lys Pro Thr Gly Tyr Gly Ser Ser Ser Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys 90 Phe Arg Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Ala Pro Leu 105 Lys Pro Ala Lys Ser Ala Arg Ser Val Arg Ala Gln Arg His Thr Asp 115 120 125 Met Pro Lys Thr Gln Lys Glu Val His Leu Lys Asn Ala Ser Arg Gly 130 135 140 Ser Ala Gly Asn Lys Asn Tyr Arg Met <210> 3 <211> 195 <212> PRT <213> Homo sapiens <400> 3 Met Gly Lys Ile Ser Ser Leu Pro Thr Gln Leu Phe Lys Cys Cys Phe Cys Asp Phe Leu Lys Val Lys Met His Thr Met Ser Ser His Leu 25 Phe Tyr Leu Ala Leu Cys Leu Leu Thr Phe Thr Ser Ser Ala Thr Ala Gly Pro Glu Thr Leu Cys Gly Ala Glu Leu Val Asp Ala Leu Gln Phe 55

Val Cys Gly Asp Arg Gly Phe Tyr Phe Asn Lys Pro Thr Gly Tyr Gly 65 70 75 80	
Ser Ser Ser Arg Arg Ala Pro Gln Thr Gly Ile Val Asp Glu Cys Cys 85 90 95	
Phe Arg Ser Cys Asp Leu Arg Arg Leu Glu Met Tyr Cys Ala Pro Leu 100 105 110	
Lys Pro Ala Lys Ser Ala Arg Ser Val Arg Ala Gln Arg His Thr Asp 115 120 125	
Met Pro Lys Thr Gln Lys Tyr Gln Pro Pro Ser Thr Asn Lys Asn Thr 130 135 140	
Lys Ser Gln Arg Arg Lys Gly Trp Pro Lys Thr His Pro Gly Gly Glu 145 150 155 160	
Gln Lys Glu Gly Thr Glu Ala Ser Leu Gln Ile Arg Gly Lys Lys Lys 165 170 175	
Glu Gln Arg Arg Glu Ile Gly Ser Arg Asn Ala Glu Cys Arg Gly Lys 180 185 190	
Lys Gly Lys 195	
<210> 4 <211> 1356 <212> DNA <213> Homo sapiens	
<400> 4 ttctcccgca accttccctt cgctccctcc cgtcccccc agctcctagc ctccgactcc	60
ctcccccct cacgcccgcc ctctcgcctt cgccgaacca aagtggatta attacacgct 12	20
ttctgtttct ctccgtgctg ttctctcccg ctgtgcgcct gcccgcctct cgctgtcctc 18	80
tctcccctc gccctcttt cggcccccc ctttcacgtt cactctgtct ctcccactat 24	40
ctctgccccc ctctatcctt gatacaacag ctgacctcat ttcccgatac cttttccccc 30	00
ccgaaaagta caacatctgg cccgcccag cccgaagaca gcccgtcctc cctggacaat 30	60

cagacgaatt ctccccccc ccccaaaaaa aaaagccatc ccccgctct gccccgtcgc 420 acatteggee eeegegaete ggeeagageg gegetggeag aggagtgtee ggeaggaggg 480 ccaacgcccg ctgttcggtt tgcgacacgc agcagggagg tgggcggcag cgtcgccggc 540 ttccagacac caatgggaat cccaatgggg aagtcgatgc tggtgcttct caccttcttg 600 gccttcgcct cgtgctgcat tgctgcttac cgccccagtg agaccctgtg cggcgggag 660 ctggtggaca ccctccagtt cgtctgtggg gaccgcggct tctacttcag caggcccgca 720 agccgtgtga gccgtcgcag ccgtggcatc gttgaggagt gctgtttccg cagctgtgac 780 ctggccctcc tggagacgta ctgtgctacc cccgccaagt ccgagaggga cgtgtcgacc 840 cctccgaccg tgcttccgga caacttcccc agataccccg tgggcaagtt cttccaatat 900 gacacetgga agcagtccac ccagegcctg cgcaggggcc tgcctgccct cctgcgtgcc 960 cgccggggtc acgtgctcgc caaggagctc gaggcgttca gggaggccaa acgtcaccgt 1020 cccctgattg ctctacccac ccaagacccc gcccacgggg gcgcccccc agagatggcc 1080 agcaatcgga agtgagcaaa actgccgcaa gtctgcagcc cggcgccacc atcctgcagc 1140 ctcctcctga ccacggacgt ttccatcagg ttccatcccg aaaatctctc ggttccacgt 1200 ccccctgggg cttctcctga cccagtcccc gtgccccgcc tccccgaaac aggctactct 1260 cctcggcccc ctccatcggg ctgaggaagc acagcagcat cttcaaacat gtacaaaatc 1320 gattggcttt aaacaccctt cacataccct ccccc 1356

```
<210> 5
```

<211> 180

<212> PRT <213> Homo sapiens

<400> 5

Met Gly Ile Pro Met Gly Lys Ser Met Leu Val Leu Leu Thr Phe Leu 1 5 10 15

Ala Phe Ala Ser Cys Cys Ile Ala Ala Tyr Arg Pro Ser Glu Thr Leu 20 25 30

Cys Gly Glu Leu Val Asp Thr Leu Gln Phe Val Cys Gly Asp Arg 35 40 45

Gly Phe Tyr Phe Ser Arg Pro Ala Ser Arg Val Ser Arg Arg Ser Arg

Gly 65	Ile	Val	Glu	Glu	Cys 70	Cys	Phe	Arg	Ser	Cys 75	Asp	Leu	Ala	Leu	Leu 80	
Glu	Thr	Tyr	Cys	Ala 85	Thr	Pro	Ala	Lys	Ser 90	Glu	Arg	Asp	Val	Ser 95	Thr	
Pro	Pro	Thr	Val 100	Leu	Pro	Asp	Asn	Phe 105	Pro	Arg	Tyr	Pro	Val 110	Gly	Lys	
Phe	Phe	Gln 115	Tyr	Asp	Thr	Trp	Lys 120	Gln	Ser	Thr	Gln	Arg 125	Leu	Arg	Arg	
Gly	Leu 130	Pro	Ala	Leu	Leu	Arg 135	Ala	Arg	Arg	Gly	His 140	Val	Leu	Ala	Lys	
Glu 145	Leu	Glu	Ala	Phe	Arg 150	Glu	Ala	Lys	Arg	His 155	Arg	Pro	Leu	Ile	Ala 160	
Leu	Pro	Thr	Gln	Asp 165	Pro	Ala	His	Gly	Gly 170	Ala	Pro	Pro	Glu	Met 175	Ala	
Ser	Asn	Arg	Lys 180													
<210 <211 <212 <213	L> 1 2> I	1514 DNA	sapi	iens												
<400 atc			gccat	ccca	at co	cagco	gagca	ı tct	gccg	acca	cgcc	gccg	jcc a	accct	cccag	60
agag	gcact	gg c	ccacc	cgcto	cc ac	cato	actt	gcc	caga	agtt	tggg	jccad	cg c	ccgc	cgcca	120
ccaç	gccca	iga c	gagca	atcgg	ge ec	ctgt	ctgo	tgc	tcgc	gcc	tgga	gato	gtc a	agagg	tcccc	180
gtt	gatag	gcg t	ctgo	gctgg	gt ac	tgct	ccto	g ctg	acto	gtcc	aggt	cggc	gt g	gacag	ıccggc	240

60

55

50

300

360

420

gctccgtggc agtgcgccc ctgctccgcc gagaagctcg cgctctgccc gccggtgtcc

gcctcgtgct cggaggtcac ccggtccgcc ggctgcggct gttgcccgat gtgcgcctg

cctctgggcg ccgcgtgcgg cgtggcgact gcacgctgcg cccggggact cagttgccgc

gcgctgccgg gggagcagca acctctgcac gccctcaccc gcggccaagg cgcctgcgtg 480 caggagtctg acgcctccgc tccccatgct gcagaggcag ggagccctga aagcccagag 540 agcacggaga taactgagga ggagctcctg gataatttcc atctgatggc cccttctgaa 600 660 gaggatcatt ccatcctttg ggacgccatc agtacctatg atggctcgaa ggctctccat gtcaccaaca tcaaaaaatg gaaggagccc tgccgaatag aactctacag agtcgtagag 720 agtttagcca aggcacagga gacatcagga gaagaaattt ccaaatttta cctgccaaac 780 tgcaacaaga atggatttta tcacagcaga cagtgtgaga catccatgga tggagaggcg 840 ggaetetget ggtgegteta ceettggaat gggaagagga teeetgggte teeagagate 900 aggggagacc ccaactgcca gatatatttt aatgtacaaa actgaaacca gatgaaataa 960 tgttctgtca cgtgaaatat ttaagtatat agtatattta tactctagaa catgcacatt 1020 tatatatat tgtatatgta tatatatat gtaactactt tttatactcc atacataact 1080 tgatatagaa agctgtttat ttattcactg taagtttatt ttttctacac agtaaaaact 1140 tgtactatgt taataacttg tcctatgtca atttgtatat catgaaacac ttctcatcat 1200 attgtatgta agtaattgca tttctgctct tccaaagctc ctgcgtctgt ttttaaagag 1260 catggaaaaa tactgcctag aaaatgcaaa atgaaataag agagagtagt ttttcagcta 1320 gtttgaagga ggacggttaa cttgtatatt ccaccattca catttgatgt acatgtgtag 1380 ggaaagttaa aagtgttgat tacataatca aagctacctg tggtgatgtt gccacctgtt 1440 aaaatgtaca ctggatatgt tgttaaacac gtgtcgataa tggaaacatt tacaataaat 1500 attctgcatg gaaa 1514

```
<210> 7
<211> 259
<212> PRT
<213> Homo sapiens
```

<400> 7

Met Ser Glu Val Pro Val Ala Arg Val Trp Leu Val Leu Leu Leu 1 5 10 15

Thr Val Gln Val Gly Val Thr Ala Gly Ala Pro Trp Gln Cys Ala Pro 20 25 30

Cys Ser Ala Glu Lys Leu Ala Leu Cys Pro Pro Val Ser Ala Ser Cys

Gly Ser Pro Glu Ile Arg Gly Asp Pro Asn Cys Gln Ile Tyr Phe Asn 245 250 255

Ala Gly Leu Cys Trp Cys Val Tyr Pro Trp Asn Gly Lys Arg Ile Pro

Val Gln Asn

<210> 8 <211> 1433 <212> DNA <213> Homo sapiens

<400> 8 attcggggcg agggaggagg aagaagcgga ggaggcggct cccgctcgca gggccgtgca 60 cctgcccgcc cgcccgctcg ctcgctcgcc cgccgcgccg cgctgccgac cgccagcatg 120 ctgccgagag tgggctgccc cgcgctgccg ctgccgccgc cgccgctgct gccgctgctg 180 ccgctgctgc tgctgctact gggcgcgagt ggcggcggcg gcggggcgcg cgcggaggtg 240 ctgttccgct gcccgcctg cacacccgag cgcctggccg cctgcgggcc cccgccggtt 300 gcgccgcccg ccgcggtggc cgcagtggcc ggaggcgccc gcatgccatg cgcggagctc 360 gtccgggagc cgggctgcgg ctgctgctcg gtgtgcgccc ggctggaggg cgaggcgtgc 420 ggcgtctaca ccccgcgctg cggccagggg ctgcgctgct atccccaccc gggctccgag 480 ctgcccctgc aggcgctggt catgggcgag ggcacttgtg agaagcgccg ggacgccgag 540 tatggcgcca gcccggagca ggttgcagac aatggcgatg accactcaga aggaggcctg 600 gtggagaacc acgtggacag caccatgaac atgttgggcg ggggaggcag tgctggccgg 660 aagcccctca agtcgggtat gaaggagctg gccgtgttcc gggagaaggt cactgagcag 720 caccygcaga tgggcaaggg tggcaagcat caccttggcc tggaggagcc caagaagctg 780 cgaccacccc ctgccaggac tccctgccaa caggaactgg accaggtcct ggagcggatc 840 tecaccatge geetteegga tgagegggge cetetggage acetetaete cetgeacate 900 cccaactgtg acaagcatgg cctgtacaac ctcaaacagt gcaagatgtc tctgaacggg 960 cagcgtgggg agtgctggtg tgtgaacccc aacaccggga agctgatcca gggagccccc 1020 accatccggg gggaccccga gtgtcatctc ttctacaatg agcagcagga ggcttgcggg 1080 gtgcacaccc agcggatgca gtagaccgca gccagccggt gcctggcgcc cctgcccccc 1140 gcccctctcc aaacaccggc agaaaacgga gagtgcttgg gtggtgggtg ctggaggatt 1200 ttccagttct gacacacgta tttatatttg gaaagagacc agcaccgagc tcggcacctc 1260 cccggcctct ctcttcccag ctgcagatgc cacacctgct ccttcttgct ttccccgggg 1320 gaggaagggg gttgtggtcg gggagctggg gtacaggttt ggggaggggg aagagaaatt 1380

<210> 9

<211> 328

<212> PRT <213> Homo sapiens

<400> 9

Met Leu Pro Arg Val Gly Cys Pro Ala Leu Pro Leu Pro Pro Pro Pro 1 5 10 15

Leu Leu Pro Leu Leu Leu Leu Leu Leu Leu Gly Ala Ser Gly 20 25 30

Gly Gly Gly Ala Arg Ala Glu Val Leu Phe Arg Cys Pro Pro Cys 35 40 45

Ala Ala Val Ala Val Ala Gly Gly Ala Arg Met Pro Cys Ala Glu 65 70 75 80

Leu Val Arg Glu Pro Gly Cys Gly Cys Cys Ser Val Cys Ala Arg Leu 85 90 95

Glu Gly Glu Ala Cys Gly Val Tyr Thr Pro Arg Cys Gly Gln Gly Leu 100 105 110

Arg Cys Tyr Pro His Pro Gly Ser Glu Leu Pro Leu Gln Ala Leu Val 115 120 125

Met Gly Glu Gly Thr Cys Glu Lys Arg Arg Asp Ala Glu Tyr Gly Ala 130 135 140

Ser Pro Glu Gln Val Ala Asp Asn Gly Asp Asp His Ser Glu Gly Gly 145 150 155 160

Leu Val Glu Asn His Val Asp Ser Thr Met Asn Met Leu Gly Gly Gly 165 170 175

Val Ph		Arg 195	Glu	Lys	Val	Thr	Glu 200	Gln	His	Arg	Gln	Met 205	Gly	Lys	Gly	
Gly Ly 21	ys 1 10	His	His	Leu	Gly	Leu 215	Glu	Glu	Pro	Lys	Lys 220	Leu	Arg	Pro	Pro	
Pro Al 225	la 2	Arg	Thr	Pro	Cys 230	Gln	Gln	Glu	Leu	Asp 235	Gln	Val	Leu	Glu	Arg 240	
Ile Se	er'	Thr	Met	Arg 245	Leu	Pro	Asp	Glu	Arg 250	Gly	Pro	Leu	Glu	His 255	Leu	
Tyr Se	er :	Leu	His 260	Ile	Pro	Asn	Cys	Asp 265	Lys	His	Gly	Leu	Туг 270	Asn	Leu	
Lys G		Cys 275	Lys	Met	Ser	Leu	Asn 280	Gly	Gln	Arg	Gly	Glu 285	Cys	Trp	Cys	
Val As	sn : 90	Pro	Asn	Thr	Gly	Lys 295	Leu	Ile	Gln	Gly	Ala 300	Pro	Thr	Ile	Arg	
Gly As 305	sp :	Pro	Glu	Cys	His 310	Leu	Phe	Tyr	Asn	Glu 315	Gln	Gln	Glu	Ala	Cys 320	
Gly Vá	al 1	His	Thr	Gln 325	Arg	Met	Gln									
<210><211><211><212><213>	DI	506 NA	sapi	.ens												
<400>	1 gage		ıcaqo	ttcc	ic ac	cato	ıtact	: ato	acco	cat	ccct	acac	cac c	ccago	ctgcc	60
aagcag																120
gcgcto	gac	tc t	gctg	ıgtgo	t go	tccc	ıcggç	acc	accac	gtgg	cgcg	ggct	gg d	cgcga	ıgctcg	180
ggggg	ctt	gg g	tccc	gtgg	ıt go	gctg	gcgag	ı ccç	gtgcg	gacg	cgcg	ıtgca	act g	ggccc	agtgc	240
gcgcct	tcc	gc c	cgcc	gtgt	g cg	ıcgga	gctg	gtg	gegeg	jagc	cggg	gctgc	egg d	ctgct	gcctg	300

Gly Ser Ala Gly Arg Lys Pro Leu Lys Ser Gly Met Lys Glu Leu Ala 180 \$185

acgtgcgcac tgagcgaggg ccagccgtgc ggcatctaca ccgagcgctg tggctccggc 360 cttcgctgcc agccgtcgcc cgacgaggcg cgaccgctgc aggcgctgct ggacggccgc 420 gggctctgcg tcaacgctag tgccgtcagc cgcctgcgcg cctacctgct gccagcgccg 480 ccagctccag gaaatgctag tgagtcggag gaagaccgca gcgccggcag tgtggagagc 540 ccgtccgtct ccagcacgca ccgggtgtct gatcccaagt tccaccccct ccattcaaag 600 ataatcatca tcaagaaagg gcatgctaaa gacagccagc gctacaaagt tgactacgag 660 tctcagagca cagataccca gaacttctcc tccgagtcca agcgggagac agaatatggt 720 ccctgccgta gagaaatgga agacacactg aatcacctga agttcctcaa tgtgctgagt 780 cccaggggtg tacacattcc caactgtgac aagaagggat tttataagaa aaagcagtgt 840 cgcccttcca aaggcaggaa gcggggcttc tgctggtgtg tggataagta tgggcagcct 900 ctcccaggct acaccaccaa ggggaaggag gacgtgcact gctacagcat gcagagcaag 960 tagacgcctg ccgcaaggtt aatgtggagc tcaaatatgc cttattttgc acaaaagact 1020 gccaaggaca tgaccagcag ctggctacag cctcgattta tatttctgtt tgtggtgaac 1080 tgattttttt taaaccaaag tttagaaaga ggtttttgaa atgcctatgg tttctttgaa 1140 tggtaaactt gagcatcttt tcactttcca gtagtcagca aagagcagtt tgaattttct 1200 tgtcgcttcc tatcaaaata ttcagagact cgagcacagc acccagactt catgcgcccg 1260 tggaatgete accacatgtt ggtegaageg geegaceaet gaetttgtga ettaggegge 1320 tgtgttgcct atgtagagaa cacgcttcac ccccactccc cgtacagtgc gcacaggctt 1380 tategagaat aggaaaacct ttaaaccccg gtcateegga cateceaacg catgeteetg 1440 gageteacag cettetgtgg tgteatttet gaaacaaggg cgtggateee teaaccaaga 1500 agaatgttta tgtcttcaag tgacctgtac tgcttgggga ctattggaga aaataaggtg 1560 gagtectact tgtttaaaaa atatgtatet aagaatgtte tagggeaete tgggaaeeta 1620 taaaggcagg tatttcgggc cctcctcttc aggaatcttc ctgaagacat ggcccagtcg 1680 aaggcccagg atggcttttg ctgcggcccc gtggggtagg agggacagag agacagggag 1740 agtcagcctc cacattcaga ggcatcacaa gtaatgtcac aattcttcgg atgactgcag 1800 aaaatagtgt tttgtagttc aacaactcaa gacgaagctt atttctgagg ataagctctt 1860 taaaggcaaa gctttatttt catctctcat cttttgtcct ccttagcaca atgtaaaaaa 1920

gaatagtaat	atcagaacag	gaaggaggaa	tggcttgctg	gggagcccat	ccaggacact	1980
gggagcacat	agagattcac	ccatgtttgt	tgaacttaga	gtcattctca	tgcttttctt	2040
tataattcac	acatatatgc	agagaagata	tgttcttgtt	aacattgtat	acaacatagc	2100
cccaaatata	gtaagatcta	tactagataa	tcctagatga	aatgttagag	atgctatttg	2160
atacaactgt	ggccatgact	gaggaaagga	gctcacgccc	agagactggg	ctgctctccc	2220
ggaggccaaa	cccaagaagg	tctggcaaag	tcaggctcag	ggagactctg	ccctgctgca	2280
gacctcggtg	tggacacacg	ctgcatagag	ctctccttga	aaacagaggg	gtctcaagac	2340
attctgccta	cctattagct	tttctttatt	tttttaactt	tttgggggga	aaagtatttt	2400
tgagaagttt	gtcttgcaat	gtatttataa	atagtaaata	aagtttttac	cattaaaaaa	2460
ataaaaaaaa	aaaaaaaaa	aaaaaaaaa	aaaaaaaaa	aaaaaa		2506

<210> 11 ·

<211> 291

<212> PRT

<213> Homo sapiens

<400> 11

Met Gln Arg Ala Arg Pro Thr Leu Trp Ala Ala Ala Leu Thr Leu Leu 1 5 10 15

Val Leu Leu Arg Gly Pro Pro Val Ala Arg Ala Gly Ala Ser Ser Gly 20 25 30

Gly Leu Gly Pro Val Val Arg Cys Glu Pro Cys Asp Ala Arg Ala Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Ala Gl
n Cys Ala Pro Pro Pro Ala Val Cys Ala Glu Leu Val Arg Glu
 50 $\,$ 55 $\,$ 60

Pro Gly Cys Gly Cys Cys Leu Thr Cys Ala Leu Ser Glu Gly Gln Pro 65 70 75 80

Cys Gly Ile Tyr Thr Glu Arg Cys Gly Ser Gly Leu Arg Cys Gln Pro 85 90 95

Ser Pro Asp Glu Ala Arg Pro Leu Gln Ala Leu Leu Asp Gly Arg Gly 100 105 110

Leu Cys Val Asn Ala Ser Ala Val Ser Arg Leu Arg Ala Tyr Leu Leu 115 120 Pro Ala Pro Pro Ala Pro Gly Asn Ala Ser Glu Ser Glu Glu Asp Arg 135 140 Ser Ala Gly Ser Val Glu Ser Pro Ser Val Ser Ser Thr His Arg Val 155 Ser Asp Pro Lys Phe His Pro Leu His Ser Lys Ile Ile Ile Lys 165 170 Lys Gly His Ala Lys Asp Ser Gln Arg Tyr Lys Val Asp Tyr Glu Ser 185 Gln Ser Thr Asp Thr Gln Asn Phe Ser Ser Glu Ser Lys Arg Glu Thr 195 200 205 Glu Tyr Gly Pro Cys Arg Arg Glu Met Glu Asp Thr Leu Asn His Leu 210 215 Lys Phe Leu Asn Val Leu Ser Pro Arg Gly Val His Ile Pro Asn Cys 225 230 Asp Lys Lys Gly Phe Tyr Lys Lys Gln Cys Arg Pro Ser Lys Gly 245 250 Arg Lys Arg Gly Phe Cys Trp Cys Val Asp Lys Tyr Gly Gln Pro Leu 260 265 Pro Gly Tyr Thr Thr Lys Gly Lys Glu Asp Val His Cys Tyr Ser Met 275 280 Gln Ser Lys 290 <210> 12 <211> 2160 <212> DNA <213> Homo sapiens <400> 12

60 agccccctgc ccctcgccgc cccccgccgc ctgcctgggc cgggccgagg atgcggcgca gcgcctcggc ggccaggctt gctcccctcc ggcacgcctg ctaacttccc ccgctacgtc 120 cccgttcgcc cgccgggccg ccccgtctcc ccgcggcctc cgggtccggg tcctccagga 180 eggecaggee gtgeegeegt gtgeeeteeg eegetegee gegegeegeg egeteeeege 240 ctgcgcccag cgccccgcgc ccgcgccca gtcctcgggc ggtccatgct gccctctgc 300 ctcgtggccg ccctgctgct ggccgccggg cccgggccga gcctgggcga cgaagccatc 360 cactgcccgc cctgctccga ggagaagctg gcgcgctgcc gccccccgt gggctgcgag 420 gagetggtge gagaggeggg etgeggetgt tgegeeactt gegeeetggg ettggggatg 480 ccctgcgggg tgtacacccc ccgttgcggc tcgggcctgc gctgctaccc gccccgaggg 540 gtggagaagc ccctgcacac actgatgcac gggcaaggcg tgtgcatgga gctggcggag 600 atcgaggcca tccaggaaag cctgcagccc tctgacaagg acgagggtga ccaccccaac 660 aacagcttca gcccctgtag cgcccatgac cgcaggtgcc tgcagaagca cttcgccaaa 720 attcgagacc ggagcaccag tgggggcaag atgaaggtca atggggcgcc ccgggaggat 780 gcccggcctg tgccccaggg ctcctgccag agcgagctgc accgggcgct ggagcggctg 840 gccgcttcac agagccgcac ccacgaggac ctctacttca tccccatccc caactgcgac 900 cgcaacggca acttccaccc caagcagtgt cacccagctc tggatgggca gcgtggcaag 960 tgctggtgtg tggaccggaa gacgggggtg aagcttccgg ggggcctgga gccaaagggg 1020 gagctggact gccaccagct ggctgacagc tttcgagagt gaggcctgcc agcaggccag 1080 ggactcagcg tcccctgcta ctcctgtgct ctggaggctg cagagctgac ccagagtgga 1140 gtctgagtct gagtcctgtc tctgcctgcg gcccagaagt ttccctcaaa tgcgcgtgtg 1200 cacgtgtgcg tgtgcgtgcg tgtgtgtgtg tttgtgagca tgggtgtgcc cttggggtaa 1260 gccagagcct ggggtgttct ctttggtgtt acacagccca agaggactga gactggcact 1320 tagcccaaga ggtctgagcc ctggtgtgtt tccagatcga tcctggattc actcactcac 1380 tcattccttc actcatccag ccacctaaaa acatttactg accatgtact acgtgccagc 1440 tctagttttc agccttggga ggttttattc tgacttcctc tgattttggc atgtggagac 1500 actcctataa ggagagttca agcctgtggg agtagaaaaa tctcattccc agagtcagag 1560 gagaagagac atgtaccttg accategtee tteeteteaa getageeeag agggtgggag 1620 cctaaggaag cgtggggtag cagatggagt aatggtcacg aggtccagac ccactcccaa 1680

ageteagact tgecaggete cetttetett etteceeagg teetteettt aggtetggtt 1740 gttgcaccat ctgcttggtt ggctggcagc tgagagccct gctgtgggag agcgaagggg 1800 gtcaaaggaa gacttgaagc acagagggct agggaggtgg ggtacatttc tctgagcagt 1860 cagggtggga agaaagaatg caagagtgga ctgaatgtgc ctaatggaga agacccacgt 1920 gctaggggat gaggggcttc ctgggtcctg ttcccctacc ccatttgtgg tcacagccat 1980 gaagtcaccg ggatgaacct atcettccag tggctcgctc cctgtagctc tgcctccctc 2040 tocatatete ettecectae acetecetee ceacacetee etacteceet gggeatette 2100 tggcttgact ggatggaagg agacttagga acctaccagt tggccatgat gtcttttctt 2160

<210> 13

<211> 258

<212> PRT

<213> Homo sapiens

<400> 13

Met Leu Pro Leu Cys Leu Val Ala Ala Leu Leu Leu Ala Ala Gly Pro 1 5 10 15

Gly Pro Ser Leu Gly Asp Glu Ala Ile His Cys Pro Pro Cys Ser Glu 20 25 30

Glu Lys Leu Ala Arg Cys Arg Pro Pro Val Gly Cys Glu Glu Leu Val 35 40 45

Arg Glu Ala Gly Cys Gly Cys Cys Ala Thr Cys Ala Leu Gly Leu Gly 50 55 60

Met Pro Cys Gly Val Tyr Thr Pro Arg Cys Gly Ser Gly Leu Arg Cys 65 70 75 80

Tyr Pro Pro Arg Gly Val Glu Lys Pro Leu His Thr Leu Met His Gly 85 90 95

Gln Gly Val Cys Met Glu Leu Ala Glu Ile Glu Ala Ile Gln Glu Ser 100 105 110

Leu Gln Pro Ser Asp Lys Asp Glu Gly Asp His Pro Asn Asn Ser Phe 115 120 125

Ser	Pro 130	Cys	Ser	Ala	His	Asp 135	Arg	Arg	Cys	Leu	Gln 140	Lys	His	Phe	Ala	
Lys 145	Ile	Arg	Asp	Arg	Ser 150	Thr	Ser	Gly	Gly	Lys 155	Met	Lys	Val	Asn	Gly 160	
Ala	Pro	Arg	Glu	Asp 165	Ala	Arg	Pro	Val	Pro 170	Gln	Gly	Ser	Cys	Gln 175	Ser	
Glu	Leu	His	Arg 180	Ala	Leu	Glu	Arg	Leu 185	Ala	Ala	Ser	Gln	Ser 190	Arg	Thr	
His	Glu	Asp 195	Leu	Tyr	Phe	Ile	Pro 200	Ile	Pro	Asn	Cys	Asp 205	Arg	Asn	Gly	
Asn	Phe 210	His	Pro	Lys	Gln	Cys 215	His	Pro	Ala	Leu	Asp 220	Gly	Gln	Arg	Gly	
Lys 225	Cys	Trp	Cys	Val	Asp 230	Arg	Lys	Thr	Gly	Val 235	Lys	Leu	Pro	Gly	Gly 240	
Leu	Glu	Pro	Lys	Gly 245	Glu	Leu	Asp	Cys	His 250	Gln	Leu	Ala	Asp	Ser 255	Phe	
Arg	Glu															
<210 <211 <212 <213	l> 1 ?> [.4 .722 DNA Homo	sapi	ens												
<400 gggg		.4 aga g	gctag	ggaaa	ıg aç	getge	aaag	g cag	gtgtg	gggc	tttt	tccc	ett t	tttt	gctcc	60
tttt	catt	ac c	cctc	catac	g tt	ttca	acct	tct	ccgg	gact	tcgc	gtag	gaa d	cctgo	gaatt	120
tcga	agaç	gga g	gtgg	gcaaa	ag to	ggag	gaaaa	a gag	gtgt	tag	ggtt	tggg	gt t	tttt	tgttt	180
ttgt	tttt	gt t	tttt	aatt	t ct	tgat	ttca	a aca	tttt	ctc	ccac	cctc	etc g	ggctç	gcagcc	240
															agcgg	300
ggtg	tatt	tt a	igatt	ttaa	ig ca	aaaa	tttt	aaa	ıgata	aat	ccat	tttt	ct c	ctccc	acccc	360

```
caacgccatc tccactgcat ccgatctcat tatttcggtg gttgcttggg ggtgaacaat
                                                                   420
tttgtggctt tttttcccct ataattctga cccgctcagg cttgagggtt tctccggcct
                                                                   480
ccgctcactg cgtgcacctg gcgctgccct gcttccccca acctgttgca aggctttaat
                                                                   540
tottgcaact gggacetget egeaggeace ceagecetee acetetetet acatttttge
                                                                   600
aagtgtctgg gggagggcac ctgctctacc tgccagaaat tttaaaacaa aaacaaaaac
                                                                   660
aaaaaaatct ccgggggccc tcttggcccc tttatccctg cactctcgct ctcctgcccc
                                                                   720
                                                                   780
accccgaggt aaagggggcg actaagagaa gatggtgttg ctcaccgcgg tcctcctgct
                                                                   840
gctggccgcc tatgcggggc cggcccagag cctgggctcc ttcgtgcact gcgagccctg
cgacgagaaa gccctctcca tgtgcccccc cagccccctg ggctgcgagc tggtcaagga
                                                                   900
                                                                   960
gccgggctgc ggctgctgca tgacctgcgc cctggccgag gggcagtcgt gcggcgtcta
                                                                  1020
caccgagege tgegeceagg ggetgegetg ceteceegg caggaegagg agaageeget
gcacgccctg ctgcacggcc gcggggtttg cctcaacgaa aagagctacc gcgagcaagt
                                                                  1080
caagatcgag agagactccc gtgagcacga ggagcccacc acctctgaga tggccgagga
                                                                  1140
gacctactcc cccaagatct tccggcccaa acacacccgc atctccgagc tgaaggctga
                                                                  1200
agcagtgaag aaggaccgca gaaagaagct gacccagtcc aagtttgtcg ggggagccga
                                                                  1260
gaacactgcc caccccgga tcatctctgc acctgagatg agacaggagt ctgagcaggg
                                                                  1320
cccctgccgc agacacatgg aggcttccct gcaggagctc aaagccagcc cacgcatggt
                                                                  1380
gccccgtgct gtgtacctgc ccaattgtga ccgcaaagga ttctacaaga gaaagcagtg
                                                                  1440
caaaccttcc cgtggccgca agcgtggcat ctgctggtgc gtggacaagt acgggatgaa
                                                                  1500
gctgccaggc atggagtacg ttgacgggga ctttcagtgc cacaccttcg acagcagcaa
                                                                  1560
cgttgagtga tgcgtccccc cccaaccttt ccctcacccc ctcccacccc cagccccgac
                                                                  1620
tccagccagc gcctccctcc accccaggac gccactcatt tcatctcatt taagggaaaa
                                                                  1680
1722
```

<210> 15

<211> 272

<212> PRT

<213> Homo sapiens

<400> 15

Met 1	vai	Leu	Leu	Thr 5	Ala	Val	Leu	Leu	Leu 10	Leu	Ala	Ala	Tyr	15	GIA
Pro	Ala	Gln	Ser 20	Leu	Gly	Ser	Phe	Val 25	His	Cys	Glu	Pro	Cys 30	Asp	Glu
Lys	Ala	Leu 35	Ser	Met	Cys	Pro	Pro 40	Ser	Pro.	Leu	Gly	Cys 45	Glu	Leu	Val
Lys	Glu 50	Pro	Gly	Cys	Gly	Cys 55	Cys	Met	Thr	Суѕ	Ala 60	Leu	Ala	Gl u	Gly
Gln 65	Ser	Cys	Gly	Val	Tyr 70	Thr	Glu	Arg	Cys	Ala 75	Gln	Gly	Leu	Arg	Cys 80
Leu	Pro	Arg	Gln	Asp 85	Glu	Glu	Lys	Pro	Leu 90	His	Ala	Leu	Leu	His 95	Gly
Arg	Gly	Val	Cys 100	Leu	Asn	Glu	Lys	Ser 105	Tyr	Arg	Glu	Gln	Val 110	Lys	Ile
Glu	Arg	Asp 115	Ser	Arg	Glu	His	Glu 120	Glu	Pro	Thr	Thr	Ser 125	Glu	Met	Ala
Glu	Glu 130	Thr	Tyr	Ser	Pro	Lys 135	Ile	Phe	Arg	Pro	Lys 140	His	Thr	Arg	Ile
Ser 145	Glu	Leu	Lys	Ala	Glu 150	Ala	Val	Lys	Lys	Asp 155	Arg	Arg	Lys	Lys	Leu 160
Thr	Gln	Ser	Lys	Phe 165	Val	Gly	Gly	Ala	Glu 170	Asn	Thr	Ala	His	Pro 175	Arg
Ile	Ile	Ser	Ala 180	Pro	Glu	Met	Arg	Gln 185	Glu	Ser	Glu	Gln	Gly 190	Pro	Cys
Arg	Arg	His 195	Met	Glu	Ala	Ser	Leu 200	Gln	Glu	Leu	Lys	Ala 205	Ser	Pro	Arg
Met	Val 210	Pro	Arg	Ala	Val	Tyr 215	Leu	Pro	Asn	Cys	Asp 220	Arg	Lys	Gly	Phe

Tyr Lys Arg Lys Gln Cys Lys Pro Ser Arg Gly Arg Lys Arg Gly Ile 225 230 235

Cys Trp Cys Val Asp Lys Tyr Gly Met Lys Leu Pro Gly Met Glu Tyr 245

 $\label{thm:conditional} \mbox{Val Asp Gly Asp Phe Gln Cys His Thr Phe Asp Ser Ser Asn Val Glu}$ 265

<210> 16

<211> 952 <212> DNA

<213> Homo sapiens

<400> 16

gcagctgcgc	tgcgactgct	ctggaaggag	aggacggggc	acaaaccctg	accatgaccc	60
cccacaggct	gctgccaccg	ctgctgctgc	tgctagctct	gctgctcgct	gccagcccag	120
gaggcgcctt	ggcgcggtgc	ccaggctgcg	ggcaaggggt	gcaggcgggt	tgtccagggg	180
gctgcgtgga	ggaggaggat	ggggggtcgc	cagccgaggg	ctgcgcggaa	gctgagggct	240
gtctcaggag	ggaggggcag	gagtgcgggg	tctacacccc	taactgcgcc	ccaggactgc	300
agtgccatcc	gcccaaggac	gacgaggcgc	ctttgcgggc	gctgctgctc	ggccgaggcc	360
gctgccttcc	ggcccgcgcg	cctgctgttg	cagaggagaa	tcctaaggag	agtaaacccc	420
aagcaggcac	tgcccgccca	caggatgtga	accgcagaga	ccaacagagg	aatccaggca	480
cctctaccac	gccctcccag	cccaattctg	cgggtgtcca	agacaetgag	atgggcccat	540
gccgtagaca	tctggactca	gtgctgcagc	aactccagac	tgaggtctac	cgaggggctc	600
aaacactcta	cgtgcccaat	tgtgaccatc	gaggcttcta	ccggaagcgg	cagtgccgct	660
cctcccaggg	gcagcgccga	ggtccctgct	ggtgtgtgga	tcggatgggc	aagtccctgc	720
cagggtctcc	agatggcaat	ggaagctcct	cctgccccac	tgggagtagc	ggctaaagct	780
gggggataga	ggggctgcag	ggccactgga	aggaacatgg	agctgtcatc	actcaacaaa	840
aaaccgaggc	cctcaatcca	ccttcaggcc	ccgccccatg	ggcccctcac	cgctggttgg	900
aaagagtgtt	ggtgttggct	ggggtgtcaa	taaagctgtg	cttggggtca	aa	952

<210> 17

<211> 240

<212> PRT

<213> Homo sapiens

<400> 17

Met Thr Pro His Arg Leu Leu Pro Pro Leu Leu Leu Leu Leu Ala Leu 1 5 10 15

Leu Leu Ala Ala Ser Pro Gly Gly Ala Leu Ala Arg Cys Pro Gly Cys
20 25 30

Gly Gln Gly Val Gln Ala Gly Cys Pro Gly Gly Cys Val Glu Glu Glu 35 40 45

Asp Gly Gly Ser Pro Ala Glu Gly Cys Ala Glu Ala Glu Gly Cys Leu 50 55 60

Arg Arg Glu Gly Glu Cys Gly Val Tyr Thr Pro Asn Cys Ala Pro 65 70 75 80

Gly Leu Gln Cys His Pro Pro Lys Asp Asp Glu Ala Pro Leu Arg Ala 85 90 95

Leu Leu Gly Arg Gly Arg Cys Leu Pro Ala Arg Ala Pro Ala Val 100 105 110

Ala Glu Glu Asn Pro Lys Glu Ser Lys Pro Gln Ala Gly Thr Ala Arg 115 120 125

Pro Gln Asp Val Asn Arg Arg Asp Gln Gln Arg Asn Pro Gly Thr Ser 130 135 140

Thr Thr Pro Ser Gln Pro Asn Ser Ala Gly Val Gln Asp Thr Glu Met 145 150 155 160

Gly Pro Cys Arg Arg His Leu Asp Ser Val Leu Gln Gln Leu Gln Thr 165 170 175

Giu Val Tyr Arg Gly Ala Gln Thr Leu Tyr Val Pro Asn Cys Asp His 180 185 190

Arg Gly Phe Tyr Arg Lys Arg Gln Cys Arg Ser Ser Gln Gly Gln Arg 195 200 205 Arg Gly Pro Cys Trp Cys Val Asp Arg Met Gly Lys Ser Leu Pro Gly 210 215 220

Ser Pro Asp Gly Asn Gly Ser Ser Ser Cys Pro Thr Gly Ser Ser Gly 225 230 235 240

<210> 18

<211> 1124

<212> DNA

<213> Homo sapiens

<400> 18

geogetgeea eegeaceeeg ceatggageg geegtegetg egegeeetge teeteggege 60 cgctgggctg ctgctcctgc tcctgcccct ctcctcttcc tcctcttcgg acacctgcgg 120 180 ccgcgacgcg tgcggctgct gccctatgtg cgcccgcggc gagggcgagc cgtgcggggg 240 tggcggcgcc ggcagggggt actgcgcgcc gggcatggag tgcgtgaaga gccycaagag 300 gcggaagggt aaagccgggg cagcagccgg cggtccgggt gtaagcggcg tgtgcgtgtg 360 caagagccgc tacccggtgt gcggcagcga cggcaccacc tacccgagcg gctgccagct 420 480 gcgcgccgcc agccagaggg ccgagagccg cggggagaag gccatcaccc aggtcagcaa gggcacctgc gagcaaggtc cttccatagt gacgccccc aaggacatct ggaatgtcac 540 tggtgcccag gtgtacttga gctgtgaggt catcggaatc ccgacacctg tcctcatctg 6.00 gaacaaggta aaaaggggtc actatggagt tcaaaggaca gaactcctgc ctggtgaccg 660 ggacaacctg gccattcaga cccggggtgg cccagaaaag catgaagtaa ctggctgggt 720 gctggtatct cctctaagta aggaagatgc tggagaatat gagtgccatg catccaattc 780 840 ccaaggacag gcttcagcat cagcaaaaat tacagtggtt gatgccttac atgaaatacc agtgaaaaaa ggtgaaggtg ccgagctata aacctccaga atattattag tctgcatggt 900 taaaagtagt catggataac tacattacct gttcttgcct aataagtttc ttttaatcca 960 atccactaac actttagtta tattcactgg ttttacacag agaaatacaa aataaagatc 1020 acacatcaag actatctaca aaaatttatt atatatttac agaagaaaag catgcatatc 1080 1124

<210> 19

<211> 282

<212> PRT

<213> Homo sapiens

<400> 19

Met Glu Arg Pro Ser Leu Arg Ala Leu Leu Gly Ala Ala Gly Leu 1 5 10 15

Leu Leu Leu Leu Pro Leu Ser Ser Ser Ser Ser Asp Thr Cys
20 25 30

Gly Pro Cys Glu Pro Ala Ser Cys Pro Pro Leu Pro Pro Leu Gly Cys $35 \hspace{1cm} 40 \hspace{1cm} 45$

Leu Leu Gly Glu Thr Arg Asp Ala Cys Gly Cys Cys Pro Met Cys Ala 50 60

Arg Gly Glu Gly Glu Pro Cys Gly Gly Gly Gly Ala Gly Arg Gly Tyr 65 70 75 80

Cys Ala Pro Gly Met Glu Cys Val Lys Ser Arg Lys Arg Arg Lys Gly
85 90 95

Lys Ala Gly Ala Ala Gly Gly Pro Gly Val Ser Gly Val Cys Val
100 105 110

Cys Lys Ser Arg Tyr Pro Val Cys Gly Ser Asp Gly Thr Thr Tyr Pro 115 120 125

Ser Gly Cys Gln Leu Arg Ala Ala Ser Gln Arg Ala Glu Ser Arg Gly 130 135 140

Glu Lys Ala Ile Thr Gln Val Ser Lys Gly Thr Cys Glu Gln Gly Pro 145 150 155 160

Ser Ile Val Thr Pro Pro Lys Asp Ile Trp Asn Val Thr Gly Ala Gln
165 170 175

Val Tyr Leu Ser Cys Glu Val Ile Gly Ile Pro Thr Pro Val Leu Ile 180 185 190

Trp Asn Lys Val Lys Arg Gly His Tyr Gly Val Gln Arg Thr Glu Leu

195	200	205
190	200	200

Leu Pro Gly Asp Arg Asp Asn Leu Ala Ile Gln Thr Arg Gly Gly Pro 210 215 220

Glu Lys His Glu Val Thr Gly Trp Val Leu Val Ser Pro Leu Ser Lys 225 230 235 240

Glu Asp Ala Gly Glu Tyr Glu Cys His Ala Ser Asn Ser Gln Gly Gln 245 250 255

Ala Ser Ala Ser Ala Lys Ile Thr Val Val Asp Ala Leu His Glu Ile 260 265 270

Pro Val Lys Lys Gly Glu Gly Ala Glu Leu 275 280

<210> 20

<211> 2125

<212> DNA

<213> Homo sapiens

<400> 20

ggcacagcag acgtaccctc cctcgctgcc tgcctgcggc ctgccctgca tgcaggatgg 60 ccctgaggaa aggaggcctg gccctggcgc tgctgctgct gtcctgggtg gcactgggcc 120 cccgcagcct ggagggagca gaccccggaa cgccggggga agccgagggc ccagcgtgcc 180 cygccgcctg tgtctgcagc tacgatgacg acgcggatga gctcagcgtc ttctgcagct 240 ccaggaacct cacgcgcctg cctgacggag tcccgggcgg cacccaagcc ctgtggctgg 300 acggcaacaa cetetegtee gteeceeegg cageetteea gaacetetee ageetggget 360 tecteaacet geagggegge cagetgggea geetggagee acaggegetg etgggeetag 420 agaacctgtg ccacctgcac ctggagcgga accagctgcg cagcctggca ctcggcacgt 480 ttgcacacac gcccgcgctg gcctcgctcg gcctcagcaa caaccgtctg agcaggctgg 540 aggacgggct cttcgagggc ctcggcagcc tctgggacct caacctcggc tggaatagcc 600 tggcggtgct ccccgatgcg gcgttccgcg gcctgggcag cctgcgcgag ctggtgctgg 660 cgggcaacag gctggcctac ctgcagcccg cgctcttcag cggcctggcc gagctccggg 720 agctggacct gagcaggaac gcgctgcggg ccatcaaggc aaacgtgttc gtgcagctgc 780

```
cccggctcca gaaactctac ctggaccgca acctcatcgc tgccgtggcc ccgggcgcct
                                                                  840
teetgggeet gaaggegetg egatggetgg acetgteeca caacegegtg getggeetee
                                                                  900
tggaggacac gttccccggt ctgctgggcc tgcgtgtgct gcggctgtcc cacaacgcca
                                                                  960
togocagoot goggooocgo acottoaagg acotgoactt cotggaggag otgoagotgg
                                                                 1020
gccacaaccg catccggcag ctggctgagc gcagctttga gggcctgggg cagcttgagg
                                                                 1080
tgctcacgct agaccacaac cagctccagg aggtcaaggc gggcgctttc ctcggcctca
                                                                 1140
ccaacgtggc ggtcatgaac ctctctggga actgtctccg gaaccttccg gagcaggtgt
                                                                 1200
teeggageet gggeaagetg cacageetge acetggaggg cagetgeetg ggacgeatee
                                                                 1260
gcccgcacac cttcaccggc ctctcggggc tccgccgact cttcctcaag gacaacggcc
                                                                 1320
tcgtgggcat tgaggagcag agcctgtggg ggctggcgga gctgctggag ctcgacctga
                                                                 1380
cctccaacca gctcacgcac ctgccccacc gcctcttcca gggcctgggc aagctggagt
                                                                 1440
acctgctgct ctcccgcaac cgcctggcag agctgccggc ggacgccctg ggcccctgc
                                                                 1500
agegggeett etggetggae gtetegeaca aeegeetgga ggeattgeee aaeageetet
                                                                 1560
tggcaccact ggggcggctg cgctacctca gcctcaggaa caactcactg cggaccttca
                                                                 1620
cgccgcagcc cccgggcctg gagcgcctgt ggctggaggg taacccctgg gactgtggct
                                                                 1680
gccctctcaa ggcgctgcgg gacttcgccc tgcagaaccc cagtgctgtg ccccgcttcg
                                                                 1740
tccaggccat ctgtgagggg gacgattgcc agccgcccgc gtacacctac aacaacatca
                                                                 1800
cctgtgccag cccgcccgag gtcgtggggc tcgacctgcg ggacctcagc gaggcccact
                                                                 1860
ttgctccctg ctgaccaggt ccccggactc aagccccgga ctcaggcccc cacctggctc
                                                                 1920
accttgtgct ggggacaggt cctcagtgtc ctcaggggcc tgcccagtgc acttgctgga
                                                                 1980
agacgcaagg gcctgatggg gtggaaggca tggcggcccc cccagctgtc atcaattaaa
                                                                 2040
2100
aaaaaaaaaa aaaaaaaaaa aaaaa
                                                                 2125
```

Met Ala Leu Arg Lys Gly Gly Leu Ala Leu Ala Leu Leu Leu Ser

<210> 21

<211> 605

<212> PRT

<213> Homo sapiens

<400> 21

Leu Gln Pro Ala Leu Phe Ser Gly Leu Ala Glu Leu Arg Glu Leu Asp 210 215 220

Leu Gly Ser Leu Arg Glu Leu Val Leu Ala Gly Asn Arg Leu Ala Tyr

Leu 225	Ser	Arg	Asn	Ala	Leu 230	Arg	Ala	Ile	Lys	Ala 235	Asn	Val	Phe	Val	Gln 240
Leu	Pro	Arg	Leu	Gln 245	Lys	Leu	Tyr	Leu	Asp 250	Arg	Asn	Leu	Ile	Ala 255	Ala
Val	Ala	PMO	Gly 260	Ala	Phe	Leu	Gly	Leu 265	Lys	Ala	Leu	Arg	Trp 270	Leu	Asp
Leu	Ser	His 275	Asn	Arg	Val	Ala	Gly 280	Leu	Leu	Glu	Asp	Thr 285	Phe	Pro	Gly
Leu	Leu 290	Gly	Leu	Arg	Val	Leu 295	Arg	Leu	Ser	His	Asn 300	Ala	Ile	Ala	Ser
Leu 305	Arg	Pro	Arg	Thr	Phe 310	Lys	Asp	Leu	His	Phe 315	Leu	Glu	Glu	Leu	Gln 320
Leu	Gly	His	Asn	Arg 325	Ile	Arg	Gln	Leu	Ala 330	Glu	Arg	Ser	Phe	Glu 335	Gly
Leu	Gly	Gln	Leu 340	Glu	Val	Leu	Thr	Leu 345	Asp	His	Asn	Gln	Leu 350	Gln	Glu
Val	Lys	Ala 355	Gly	Ala	Phe	Leu	Gly 360	Leu	Thr	Asn	Met	Ala 365	Val	Met	Asn
Leu	Ser 370	Gly	Asn	Cys	Leu	Arg 375	Asn	Leu	Pro	Glu	Gln 380	Val	Phe	Arg	Gly
Leu 385		Lys	Leu		Ser 390		His		Glu			Суз	Leu		Arg 400
Ile	Arg	Pro	His	Thr 405	Phe	Thr	Gly	Leu	Ser 410	Gly	Leu	Arg	Arg	Leu 415	Phe
Leu	Lys	Asp	Asn 420	Gly	Leu	Val	Gly	Ile 425	Glu	Glu	Gln	Ser	Leu 430	Trp	Gly
Leu	Ala	Glu 435	Leu	Leu	Glu	Leu	Asp 440	Leu	Thr	Ser	Asn	Gln 445	Leu	Thr	His

Leu	Pro 450	His	Arg	Leu	Phe	Gln 455	Gly	Leu	Gly	Lys	Leu 460	Glu	Tyr	Leu	Leu
Leu 465	Ser	Arg	Asn	Arg	Leu 470	Ala	Glu	Leu	Pro	Ala 475	Asp	Ala	Leu	Gly	Pro 480
Leu	Gln	Arg	Ala	Phe 485	Trp	Leu	Asp	Val	Ser 490	His	Asn	Arg	Leu	Glu 495	Ala
Leu	Pro	Asn	Ser 500	Leu	Leu	Ala	Pro	Leu 505	Gly	Arg	Leu	Arg	Туг 510	Leu	Ser
Leu	Arg	Asn 515	Asn	Ser	Leu	Arg	Thr 520	Phe	Thr	Pro	Gln	Pro 525	Pro	Gly	Leu
Glu	Arg 530	Leu	Trp	Leu	Glu	Gly 535	Asn	Pro	Trp	Asp	Cys 540	Gly	Cys	Pro	Leu
Lys 545	Ala	Leu	Arg	Asp	Phe 550	Ala	Leu	Gln	Asn	Pro 555	Ser	Ala	Val	Pro	Arg 560
Phe	Val	Gln	Ala	Ile 565	Cys	Glu	Gly	Asp	Asp 570	Cys	Gln	Pro	Pro	Ala 575	Tyr
Thr	Tyr	Asn	Asn 580	Ile	Thr	Cys	Ala	Ser 585	Pro	Pro	Glu	Val	Val 590	Gly	Leu
Asp	Leu	Arg 595	Asp	Leu	Ser	Glu	Ala 600	His	Phe	Ala	Pro	Cys 605			